

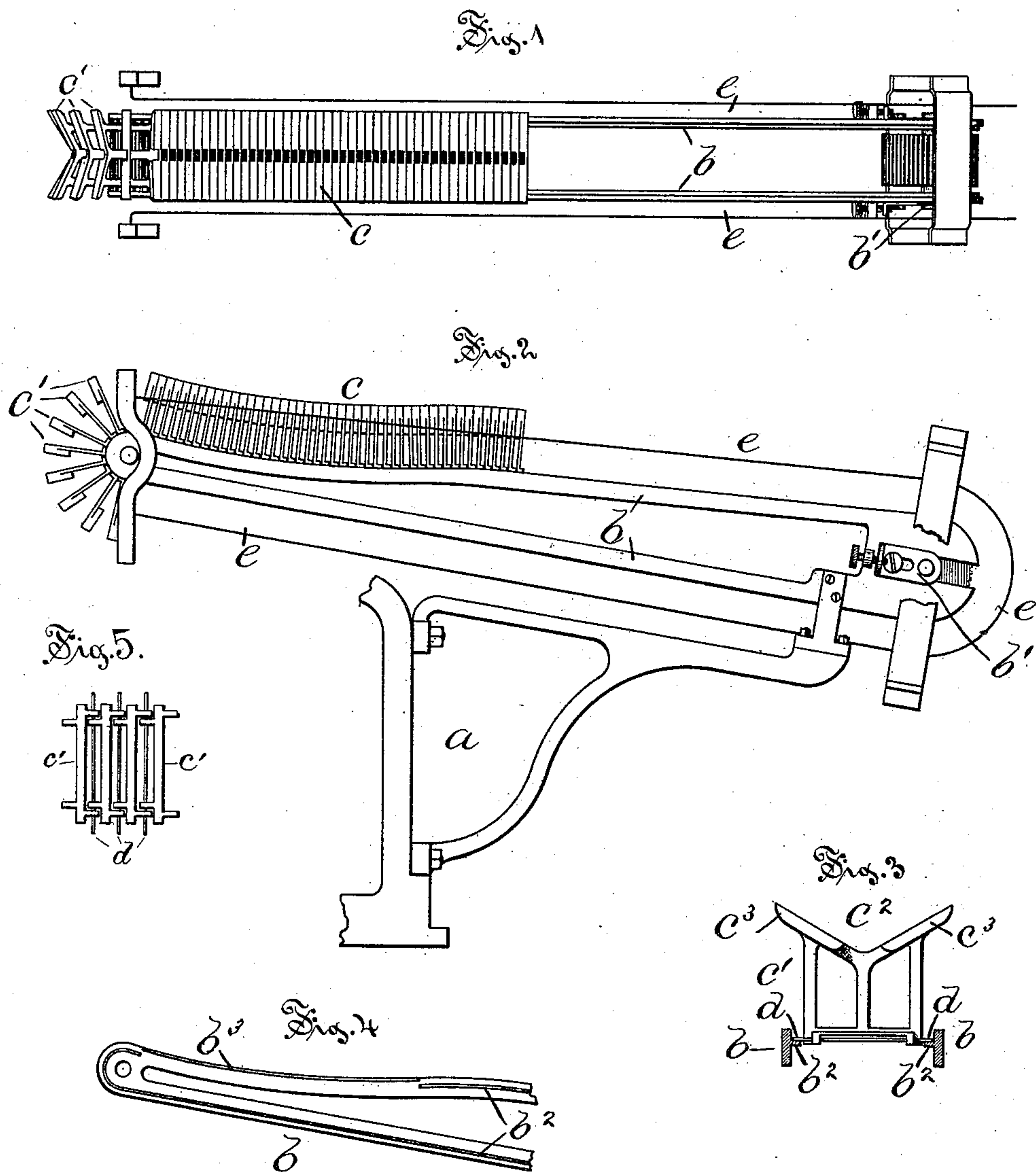
(No Model.)

E. H. WOODFORD.

DRYING ATTACHMENT FOR ENVELOPE MACHINES.

No. 336,976.

Patented Mar. 2, 1886.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## DRYING ATTACHMENT FOR ENVELOPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 336,976, dated March 2, 1886.

Application filed July 23, 1885. Serial No. 172,361. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN H. WOODFORD, of Rockville, in the county of Tolland and State of Connecticut, have invented certain  
5 new and useful Improvements in Drying Attachments for Envelope-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, where--

10 Figure 1 is a plan view of part of an endless chain and a supporting-frame of the kind adapted for use on a machine for gumming, folding, and sealing envelopes. Fig. 2 is a side view of the same with parts cut away to show construction, and a part only of the end-  
15 less chain or apron being shown. Fig. 3 is a detail front view of one of my improved links, and also the supporting-frame in cross-section. Fig. 4 is a detail view of the inner side  
20 of part of the chain-supporting frame, showing the location of the flanges in the depressed or curved part of the path of the chain. Fig. 5 is a detail bottom view, on enlarged scale, of several connected links, the parts beyond not  
25 being shown.

My invention relates particularly to the endless chain or apron which is used as a drier on envelope gumming and sealing machines of the type of which the Allen and Lister  
30 self-sealing machine is a sample.

The object of my invention is to insure the sealing of the end flaps of envelopes that are made of thick or stiff paper while they are on the drier; and to this end it consists in the  
35 combination of a frame or bed having the chain-supporting way curved for a part of its length with the endless chain made up of frame-like links, and also in certain details of construction of its several parts, as more  
40 particularly hereinafter described.

In the accompanying drawings, the endless chain, its peculiar link, and the frame immediately supporting the link are the only parts shown, as the folding and gumming and the  
45 rest of the delivery mechanism is not altered or affected by reason of my improvement, and the particular relation of this drier to the rest of the machine is well known to any one at all skilled in this art.

50 In the accompanying drawings, the letter *a* denotes the main frame of the machine, a

small part only being shown; *b*, the frame, usually of iron, cast to shape that supports the endless chain, and this frame is usually long, of irregular outline, and is placed in  
55 the sloping position with the narrow end the highest, as shown, and directly below the folder which delivers each envelope between the links of the endless chain *c* as it moves along the frame. At the lower and outer end  
60 of the frame *b* the chain passes over a roller whose axis or pivot is borne in the adjustable bearing-blocks *b'*, each of these being seated in grooves or ways against the end of a screw, by means of which the blocks are moved and  
55 the tension of the chain adjusted. This is an old and well-known feature.

The endless chain *c* is made up of the links *c'*, pivoted together by pins or rods *d*, that pass through holes in projections on each link that  
70 lap by each other, and these rods project beyond both sides of the link and rest in a groove or on a flange, *b''*, on the inner face of each side of the frame *d*.

The old form of link bears on or near each  
75 end an arm that projects from the chain and outward from the frame, so that envelopes may be placed and loosely held between these arms on the links crosswise of the chain, the function of the endless chain being to hold the envelopes  
80 and expose each one on the arms for a length of time to allow the gum on the free flap of the envelope to dry. This old device works well when thin paper is used; but when stiffer paper is used the end flaps fail to seal and spring  
85 open while on the chain. In order to obviate this defect, and insure the perfect sealing of the gummed flaps, the link of my improved device is made with a frame, *c''*, that bears the pads or  
90 forms *c'''*, that conform in position, outline, and extent to that of the gummed surface of the end flaps when they are folded down in place for sealing, and when a freshly gummed and folded envelope is placed in the drier between  
95 the links that are opened widely in passing over the small roll at the upper end of the chain-frame, as shown in Fig. 2, the links gradually close upon the envelope as the chain feeds along, and as the curved or depressed portion of the way is reached, and the pads *c'''*  
100 on each link press the envelope more or less firmly against the flat back of the frame of the



link immediately back of it. The degree of this pressure and its continuance depends upon the sharpness of the curve and its length, and these are so arranged on any one machine 5 as to press the envelope only long enough to insure the perfect sealing of the flaps, and not leave the outline of the pads or the frame upon the envelope. As soon as the chain in its progress rises out of its depression, the links 10 open apart, so that this sealing pressure upon the envelope is gradually begun and as gradually ceases. The free flap of the envelope lies between the links and below the pads, and is permitted to dry in the usual manner as the 15 chain moves along until the envelope is finally delivered from the machine. The usual guards, *e*, are fast to the sides and bottom of the frame, to prevent the accidental removal of the envelopes in their passage along the chain-frame. 20 This closing of the links upon the envelope may be effected by cutting away a portion of the supporting-flange *b*, in which case the weight of the chain causes it to sag out of line; or the flange may be formed in a reverse curve, which 25 will define the path of the chain in its depressed part; or the chain may rest upon the flange on each side of the depressed part and pass below the flange *b*<sup>3</sup> in its depressed part, the latter form of the flange being clearly shown 30 in Fig. 4.

The object of my improvement may, as already explained, evidently be attained whether

there is a depression in a part of the frame on which the links or the projecting ends of the pivots slide, and which may be termed the 35 "way" or "path," or whether a part of this frame is so cut away as to allow the chain to sag into the opening as it moves along its path.

By the term "depression," as used in the following claims, I mean to be understood as 40 referring to the distinct inward bend or to its equivalent break or like means for causing the outer ends of the links to be temporarily closed toward each other as the chain is moved along.

I claim as my invention— 45

1. In a drying attachment for envelope-machines, the combination of a chain-supporting frame with a depression in the way, on which the chain rides; and an endless chain composed of links with parts projecting outward from 50 the base of each link and toward each other, all substantially as described.

2. In a drying attachment for envelope-machines, in combination, a chain-supporting frame, *b*, with a flange, *b*<sup>2</sup>, having a depression 55 in part of its length, an endless chain, *c*, made up of links *c*<sup>1</sup>, having outward-projecting parts bearing pads *c*<sup>2</sup>, and the pivots *d*, all substantially as described.

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Witnesses:

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